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JNANA BHARATHI
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BUB/CTE/2014-15

Date: 23-07-2014

TEST REPORT ON WET MIX MACADAM MIX
(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Improvements to roads and drains atAmbedkar Colony Left side in ward No 06. in Thanaisandra Village Limits.}

Ref.: Letter No. Testing/BUB/2014-15, dated 21-07-2014

Sample supplied to lab by : Assistant Executive Engineer
Byatarayanapura Sub-Division
BBMP, Bangalore.

Report required for : Technical Manager, KRIDL, Bangalore,

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, IV Revision-2001
53	100.00	100
45	96.90	95-100
26.5	---	-
22.4	73.10	60-80
11.2	55.00	40-60
4.750	35.45	25-40
2.360	18.20	15-30
0.600	13.60	8--22
0.075	2.75	0--8

*As Furnished by Client.

The Results relate only to the items tested.

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BUB/CTE/2014-15

Date: 09-08-2014

TEST REPORT ON BITUMINOUS MIXES
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: Testing of Bitumen Premix Sample (Semi Dense Bituminous Concrete-SDBC).
{Project*: Improvements to roads and drains atAmbedkar Colony Left side in ward No 06. in Thanaisandra Village Limits.}

Ref.: Letter No. Testing/BUB/2014-15, dated 06-08-2014

Sample supplied to lab by : Assistant Executive Engineer
Byatarayanapura Sub-Division
BBMP, Bangalore.

Report required for : Technical Manager, KRIDL, Bangalore,

TEST RESULTS :

5. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **5.10 %**
6. **Gradation Test :**

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-15 of MORTH Specfications-2001 (Grading – 2)
13.2	100.00	100
9.5	96.65	90—100
4.75	45.30	35—51
2.36	29.15	24—39
1.18	20.30	15—30
0.3	12.05	09—19
0.075	4.60	03—08

*As Furnished by Client.

The Results relate only to the items tested.

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BUB/CTE/2014-15

Date:24-06-2014

1. TESTING OF FINE AGGREGATES:

Sub: Testing of Fine Aggregates.
{Project*: Improvements to roads and drains atAmbedkar Colony Left side in ward No 06. in Thanaisandra Village Limits.}

Ref.: Letter No. Testing/BUB/2014-15, dated 20-06-2014

Sample supplied to lab by : Assistant Executive Engineer
Byatarayanapura Sub-Division
BBMP, Bangalore.

Report required for : Technical Manager, KRIDL, Bangalore,

TABLE - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -III	
04.75	97.05	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	83.75	60-95	75-100	85-100	
01.18	74.00	30-70	55-90	75-100	
600. mic	43.25	15-34	35-59	60-79	
300.mic	18.20	5-20	8-30	12-40	
150.mic	2.85	0-10	0-10	0-10	

TABLE 1.2 ;

Sl No	Test Conducted	Sample	Results	Requirements as Per IS. Specification IS :383-1970 (Reaffirmed 2002)
1	Silt Content	001	1.40 %	Not more than 8%
2.	Specific Gravity	----	2.55	-------

*As furnished by Client.
The Results relate only to the items tested.

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BUB/CTE/2014-15

1. TEST REPORT ON CEMENT:

Date: 30-06-2014

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Improvements to roads and drains atAmbedkar Colony Left side in ward No 06. in Thanaisandra Village Limits.}

Ref.: Letter No. Testing/BUB/2014-15, dated 20-06-2014

Sample supplied to lab by : Assistant Executive Engineer
Byatarayanapura Sub-Division
BBMP, Bangalore.

Report required for : Technical Manager, KRIDL, Bangalore,

PHYSICAL TESTS ON CEMENT

Brand* : Birla Super
Grade * : 53
Type * : OPC
Date : 21-06-2014 to 28-06-2014

SL No	Name of Test	Results	Requirements as per
		Cement Sample	IS 12269-1987
1	Initial setting time	**156 min**	Shall not be less than 30 min
2	Final setting time	**250 min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**2.40 %**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**1.40 mm**	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results) b) 7 days (average of three results)	**28.60 N/ Sq mm** **41.60 N/Sq mm**	Shall not be less than 27 N/Sqmm Shall not be less than 37N/Sqmm

*As furnished by Client.
The Results relate only to the items tested.

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BUB/CTE/2014-15

1. TESTING OF COARSE AGGREGATES (40 mm): **Date: 24-06-2014**

Sub: Testing of Coarse Aggregates.
{Project*: Improvements to roads and drains atAmbedkar Colony Left side in ward No 06. in Thanaisandra Village Limits.}
Ref.: Letter No. Testing/BUB/2014-15, dated 20-06-2014
Sample supplied to lab by : Assistant Executive Engineer
Byatarayanapura Sub-Division
BBMP, Bangalore.
Report required for : Technical Manager, KRIDL, Bangalore,

Table - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2002) % Passing	
	40 mm Sample	*Single size*	*Graded*
40mm	98.40	85-100	95 – 100
20mm	39.10	0 -20	30- 70
10mm	18.50	0 -5	10- 35
4.75mm	Nil	------	0 - 5

TABLE 1 2 :

SL No	Test conducted	Sample No	Results	Requirements as per IS:383-1970 & Test Conforms to IS 2386(Part I to IV) – 1963 (Reaffirmed on 2002)
1.	Flakiness Index	As above	15.75 %	Not to exceed 25 %
2.	Crushing value	----,,----	25.70 %	Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces

*As furnished by Client.
The Results relate only to the items tested.

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BUB/CTE/2014-15 DATE: 30-07-2014

1. TEST REPORT ON CEMENT CONCRETE CUBES :

Sub: Testing of Concrete Cubes (28days Compressive Strength)
{Project*: Improvements to roads and drains atAmbedkar Colony Left side in ward No 06. in Thanaisandra Village Limits.}

Ref.: Letter No. Testing/BUB/2014-15, dated 29-07-2014
Sample supplied to lab by : Assistant Executive Engineer
Byatarayanapura Sub-Division
BBMP, Bangalore.
Report required for : Technical Manager, KRIDL, Bangalore,

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{20}

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	01-07-14	29-07-14	28days	22500	500	22.22	**22.36**
	002	"	"	"	"	510	22.66	
	003	"	"	"	"	500	22.22	

*As Furnished by Client.
The Results relate only to the items tested.

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BUB/CTE/2014-15

Date: 27-06-2014

1. TEST REPORT ON REINFORCEMENT STEEL :

Sub: Testing of Reinforcement Steel of diameter 12mm.
{Project*: Improvements to roads and drains atAmbedkar Colony Left side in ward No 06. in Thanaisandra Village Limits.}

Ref.: Letter No. Testing/BUB/2014-15, dated 24-06-2014

Sample supplied to lab by : Assistant Executive Engineer
Byatarayanapura Sub-Division
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Report required for : Technical Manager, KRIDL, Bangalore,

TABLE – 1

SL No	Details	For 12mm	
		Test Results	Req as per IS 1786-2008
01	Observed diameter of bar	**12.0mm**	12.0mm
02	Observed Wt/m Length **Kg/m**	**0.892**	0.834
03	Proof stress/Yield stress, fy , **N/mm^2**	**465.0**	415.0
04	Bend/ Re bend Test	**Ok**	---
05	Percentage of Elongation, %	**20.50**	14.50
06	Ultimate Tensile Strength **N/mm^2**	**615.0**	485.0

*As furnished by Client.
The Results relate only to the items tested.

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